AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for implementing a sleep proxy, comprising:

receiving a registration request from a device, wherein the registration request contains:

sufficient information to allow the sleep proxy to generate a wakeup packet that can wake up the device,

a list of requests for which the sleep proxy can answer, and

a lease expiration time, wherein upon reaching the lease expiration time, the sleep proxy cancels the device registration; and

adding the device to the list of devices for which the sleep proxy answers;

receiving a request at the sleep proxy for information pertaining to a service provided by the ~~by a~~ device;

determining if the device is a device for which the sleep proxy answers;

if so, determining if the request is a request for which the sleep proxy can answer; and

if so, sending a response to the request on behalf of the device.

2. (Original) The method of claim 1, wherein if the request is not a request for which the sleep proxy can answer, the method further comprises sending a wakeup packet to the device, wherein the wakeup packet is a packet that causes the device to exit a power-saving mode.

3-4 (Canceled).

5. (Currently amended) The method of claim 1 ~~claim 4~~, wherein an internal timer in the device wakes up the device so that the device can renew its registration with the sleep proxy before the registration expires.

6. (Original) The method of claim 1, further comprising:

receiving a notification from the device that the device is entering a power-saving state; and

in response to the notification, configuring the sleep proxy to answer for the device.

7. (Original) The method of claim 1, further comprising:

receiving a notification from the device that the device has exited a power-saving state; and

in response to the notification, configuring the sleep proxy not to answer for the device.

8. (Original) The method of claim 1, further comprising implementing a second sleep proxy that duplicates the functionality of the sleep proxy for fault-tolerance purposes.

9. (Original) The method of claim 1, wherein sending a response to the request further comprises waiting a random period of time prior to sending the response, wherein waiting the random period of time facilitates duplicate answer suppression between sleep proxies.

10. (Currently amended) A computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for implementing a sleep proxy, the method comprising:

receiving a registration request from a device, wherein the registration request contains:

sufficient information to allow the sleep proxy to generate a wakeup packet that can wake up the device,

a list of requests for which the sleep proxy can answer, and

a lease expiration time, wherein upon reaching the lease expiration time, the sleep proxy cancels the device registration; and

adding the device to the list of devices for which the sleep proxy answers;

receiving a request at the sleep proxy for information pertaining to a service provided by the ~~by a~~ device;

determining if the device is a device for which the sleep proxy answers;

if so, determining if the request is a request for which the sleep proxy can answer; and

if so, sending a response to the request on behalf of the device.

11. (Original) The computer-readable storage medium of claim 10, wherein if the request is not a request for which the sleep proxy can answer, the method further comprises sending a wakeup packet to the device, wherein the wakeup packet is a packet that causes the device to exit a power-saving mode.

12-13 (Canceled).

14. (Currently amended) The computer-readable storage medium of claim 10 ~~claim 13~~, wherein an internal timer in the device wakes up the device so that

the device can renew its registration with the sleep proxy before the registration expires.

15. (Original) The computer-readable storage medium of claim 10, wherein the method further comprises:

receiving a notification from the device that the device is entering a power-saving state; and

in response to the notification, configuring the sleep proxy to answer for the device.

16. (Original) The computer-readable storage medium of claim 10, wherein the method further comprises:

receiving a notification from the device that the device has exited a power-saving state; and

in response to the notification, configuring the sleep proxy not to answer for the device.

17. (Original) The computer-readable storage medium of claim 10, wherein the method further comprises implementing a second sleep proxy that duplicates the functionality of the sleep proxy for fault-tolerance purposes.

18. (Original) The computer-readable storage medium of claim 10, wherein sending a response to the request further comprises waiting a random period of time prior to sending the response, wherein waiting the random period of time facilitates duplicate answer suppression between sleep proxies.

19. (Currently amended) An apparatus that implements a sleep proxy, comprising:

a registration mechanism configured to receive a registration request from a device, wherein the registration request contains:

sufficient information to allow the sleep proxy to generate a wakeup packet that can wake up the device,

a list of requests for which the sleep proxy can answer, and

a lease expiration time;

a list addition mechanism configured to add the device to the list of devices for which the sleep proxy answers;

a cancellation mechanism that is configured to cancel the device registration upon reaching the lease expiration time;

a receiving mechanism configured to receive a request at the sleep proxy for information pertaining to a service provided by the ~~by a~~ device;

a determination mechanism configured to determine if the device is a device for which the sleep proxy answers;

a second determination mechanism configured to determine if the request is a request for which the sleep proxy can answer if the device is a member of the list of devices for which the sleep proxy answers; and

a response mechanism configured to send a response to the request on behalf of the device if the request is a request for which the sleep proxy can answer.

20. (Original) The apparatus of claim 19, wherein if the request is not a request for which the sleep proxy can answer, the apparatus further comprises a wakeup mechanism configured to send a wakeup packet to the device that causes the device to exit a power-saving mode.

21-22 (Canceled).

23. (Currently amended) The apparatus of claim 19 ~~claim 22~~, wherein an internal timer in the device wakes up the device so that the device can renew its registration with the sleep proxy before the registration expires.

24. (Original) The apparatus of claim 19, further comprising:

a notification mechanism configured to receive a notification from the device that the device is entering a power-saving state; and

a configuration mechanism configured to configure the sleep proxy to answer for the device in response to the notification.

25. (Original) The apparatus of claim 19, further comprising:

a notification mechanism configured to receive a notification from the device that the device has exited a power-saving state; and

a configuration mechanism configured to configure the sleep proxy not to answer for the device in response to the notification.

26. (Original) The apparatus of claim 19, further comprising a second sleep proxy that duplicates the functionality of the sleep proxy for fault-tolerance purposes.

27. (Original) The apparatus of claim 19, wherein the response mechanism is further configured to wait a random period of time prior to sending the response, wherein waiting the random period of time facilitates duplicate answer suppression between sleep proxies.